

REMARKS

A non-final Office Action dated 04 February 2004 rejected all of the pending claims, Claims 1–20. The Office Action rejected Claims 1, 7-11, 13-16, and 19-20 under 35 U.S.C. §103(a) as being anticipated by Kabel [5,936,553] in view of Hansen [6,567,014]. Additionally, the Office Action rejected Claims 2-6, 12, and 17-18 under 35 U.S.C. §103(a) as being unpatentable over Kabel [5,936,553] in view of McElreath et al. [6,154,151].

Amendments

Applicant has amended the claims to make explicit the extant terms in the claims. The applicant has further amended the independent claims to make explicit “a primary flight display;” the primary flight display is a display “located on an instrument panel and configured to simultaneously indicate the altitude, attitude, and direction of flight” of an aircraft. The definitions is consistent with the regulations regulating at least Part 23 aircraft, including, among others, 14 CFR §23.1311-1321 requiring the presence of indicators configured to display altitude, attitude, and direction of flight data as a part of a primary flight display. It is Applicant’s considered position that the additional language does not engraft further limitations to the claims but rather makes explicit the implicit limitations in the prior language.

“Primary Flight Display”

Applicant respectfully asserts that “Primary Flight Display,” having the meaning a “specialized display, on an instrument panel, that displays, in a single composite pane configured to display at least an artificial horizon, altitude, attitude, and direction of flight data,” is a well-accepted term in the aviation community. The aviation community considers the primary flight display to be the “one-stop-shop” for visual information as to the operation of the aircraft, known in the community as “situational awareness.” It is specifically configured to give all of these critical functions at a glance. For this reason, a display configured to display each of altitude, attitude, and direction of flight data in alternate screens is not a “primary flight display.”

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Applicant seeks to distinguish the term “primary flight display” from all other uses relying upon the definition set forth at 14 CFR §23.1311-1321 requiring the presence of indicators configured to display altitude, attitude, and direction of flight data on a single display pane as a part of a primary flight display.

Claim Rejections – 35 USC §103

Kabel in view of Hansen, et al.

The Office Action rejected Claims 1, 7-11, 13-16, and 19-20 under 35 U.S.C. §103(a) as being anticipated by Kabel [5,936,553] in view of Hansen, et al. [6,567,014]. The Office Action stated that “Kabel discloses that one or more situation awareness symbols including speed, direction, distance, etc.” (Column 5). Nothing Kabel indicates the simultaneous display of the situational awareness indicia.

The Office Action also stated that “Hansen, et al. discloses an aircraft heads-up display system. According to Hansen, et al., as described, for example, in the abstract, the display ‘removes non-essential symbols and displays the aircraft air speed, altitude, and attitude. Thus it would have been obvious to modify the navigation device and method for displaying navigation information in a virtual perspective view of Kabel by incorporating the teachings of uncluttered display from the aircraft heads-up display system of Hansen et al. because such modification, among other advantages, would enable a pilot to quickly and accurately identify which way is up, thereby to immediately alert the pilot that the aircraft data are exceeding certain limits.’ Applicant suggests the Examiner has constructed a reconstruction based upon hindsight reasoning.

Applicant respectfully traverses. Applicant respectfully submits that a *prima facie* case of obviousness has not been established because the combination of cited references does not teach or suggest the claimed invention.

Kabel teaches the generation of a map view and a perspective view used as the display for a GPS. Nowhere has Kabel suggested an aircraft attitude nor a movable horizon as in a

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primary flight display. As indicated by the Examiner, Figures 3 and 4 indicate a horizon, but that horizon is nowhere indicated as an indication of attitude, but, rather, is a natural feature of any perspective view generated from terrain data. It is in the very nature of perspective views that vanishing points are selected on a horizon.

Hansen, et al. does not overcome this deficiency. It is the very object of Hansen, et al., as cited by the Examiner, to provide an “uncluttered display.” It is out of necessity that Hansen, et al. teaches an uncluttered display as the Hansen display necessarily obscures the pilot’s direct view of the terrain. In order not to obscure for the pilot the view of the terrain through the canopy, the Hansen, et al. display has only the barest essentials. Combining this display with the GPS display would be to create a heads-up display that has a static horizon projected the taught display thereby obscuring the whole of the pilot’s view through the canopy. Even in combination, there is no teaching of swinging the perspective view to create the artificial horizon.

Because the combination of Kabel and Hansen, et al. does not teach or suggest all claim limitations, a *prima facie* case of obviousness has not been established. Accordingly, Applicant respectfully submits that Claims 1, 7-11, 13-16, and 19-20 are not obvious and are patentable over the combination of Kabel and Hansen, et al. Accordingly, Applicant submits that Claims 1, 7-11, 13-16, and 19-20, as amended, are in a condition for allowance and that entry of this Amendment After Final Rejection is appropriate. Applicant very respectfully requests entry of the Amendment After Final Rejection, and reconsideration and allowance of Claims 1, 7-11, 13-16, and 19-20 as amended.

Claim Rejections – 35 USC §103

Kabel in view of Hansen, in further view of McElreath

The Office Action rejected Claims 2-6, 12, 17-18 under 35 U.S.C. §103(a) as being anticipated by Kabel [5,936,553] in view of Hansen [6,567,014] in further view of McElreath, et al. [6,154,151]. The Examiner has cited McElreath, et al. to provide the addition of a plurality of waypoints (current and next).

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Applicant respectfully traverses. Applicant respectfully submits that a *prima facie* case of obviousness has not been established because the combination of cited references does not teach or suggest the claimed invention.

Applicant here incorporates the argument set forth above as the combination of Kabel and Hansen, et al. and further indicates that the teachings of McElraith, et al, are specifically inapposite with those of Hansen, et al. It is out of necessity that Hansen, et al. teaches an uncluttered display as the Hansen display necessarily obscures the pilot's direct view of the terrain. In order not to obscure for the pilot the view of the terrain through the canopy, the Hansen, et al. display has only the barest essentials. Just as combining the Hansen, et al. display with the GPS display would be to create an impediment to the pilot's view, through the cockpit, of the terrain, the addition of waypoints projected upon this view would further clutter the uncluttered view taught by Hansen. Even in this second combination, there is no teaching of swinging the waypoint arrows to move in accord with the artificial horizon.

Because the combination of Kabel, Hansen, et al., and McElraith, et al. does not teach or suggest all claim limitations, a *prima facie* case of obviousness has not been established. Accordingly, Applicant respectfully submits that Claims Claims 2-6, 12, 17-18 are not obvious and are patentable over the combination of Kabel, Hansen, et al., and McElraith, et al. Accordingly, Applicant submits that Claims 2-6, 12, 17-18, as amended, are in a condition for allowance and that entry of this Amendment After Final Rejection is appropriate. Applicant very respectfully requests entry of the Amendment After Final Rejection, and reconsideration and allowance of Claims 2-6, 12, 17-18, as amended.

CONCLUSION

The objections to the drawings and the claims have been overcome. Claims Claims 1, 7-11, 13-16, and 19-20 are not obvious over Kabel in view of Hansen, et al. and Claims 2-6, 12, 17-18, are not obvious in the further view of McElraith, et al. As a result, all claims pending in this application are in condition for allowance. As a result Applicant very respectfully submits

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that entry of this Amendment After Final Rejection is appropriate. Accordingly, Applicant very respectfully requests entry of the amendment, and reconsideration and allowance of all claims pending in this patent application.

Applicant has further included an RCE for entry in the event that the claims are not found to be in a condition for allowance after final rejection.

The amendments to the claims make explicit the claim to the primary flight display. In light of these now-explicit claims directed to the primary display, the claims are in a condition for allowance. The applicant requests that the Examiner direct any questions or concerns to the applicant's attorney, the undersigned.

Respectfully submitted,

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EXPRESS MAIL CERTIFICATE

I hereby certify that this communication is being deposited with the United States Postal Service via Express Mail Label No. EL962635198US under 37 C.F.R. § 1.08 on the date indicated below addressed to: MAIL STOP RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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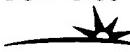
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